

WHAT IS CLAIMED IS:

1. A mounting structure for a transmitter of a tire condition monitoring apparatus arranged in a tire of a vehicle having a wheel and the wheel including a drop center and a rim formed integrally with the drop center at a predetermined angle relative to the drop center, the mounting structure comprising:
  - a valve stem attachable to the rim of the wheel for charging air into the tire, the valve stem having a basal end;
  - a casing connected to the valve stem to house the transmitter; and
  - a coupling fixture for coupling the casing and the valve stem, the coupling fixture including:
    - a coupler coupled to the basal end of the valve stem;
    - an anchor for anchoring the casing; and
    - a connection for connecting the coupler and the anchor at an angle to one another so that the coupling fixture is resilient, with the angle between the coupler and the anchor being greater than the predetermined angle before the coupling fixture couples the casing and the valve stem to one another.
2. The transmitter mounting structure according to claim 1, wherein the wheel is a first or second wheel with the rim of each of the first or second wheels formed at first and second predetermined angles, respectively, relative to the drop center of each wheel, and the angle between the coupler and the anchor is set so as to be greater than the first and second predetermined angles before the coupling fixture couples the casing and the valve stem.

3. The transmitter mounting structure according to claim 1, further comprising:
  - a valve nut for attaching the valve stem to the wheel, and
  - a regulating unit for regulating the rotation of the coupling fixture when the valve nut is attached to the valve stem.
4. The transmitter mounting structure according to claim 3, wherein the regulating unit includes:
  - a bushing that is press fitted to the basal end of the valve stem; and
  - a bracket fixed to the coupling fixture.
5. The transmitter mounting structure according to claim 4, wherein the bracket includes:
  - a pair of projecting rotation regulating walls, the bushing being located between the rotation regulating walls.
6. The transmitter mounting structure according to claim 5, wherein the bushing includes:
  - a pair of side walls abutted against the rotation regulating walls.

7. The transmitter mounting structure according to claim 4, wherein the vehicle travels at a predetermined first velocity and a predetermined second velocity, which is faster than the predetermined first velocity, and the bracket and the coupling fixture abut against each other such that the bracket moves away from the drop center of the wheel when the velocity of the vehicle reaches the predetermined first velocity but does not further move away from the drop center of the wheel when the velocity of the vehicle reaches the predetermined second velocity.
8. The transmitter mounting structure according to claim 1, wherein the casing abuts against the drop center of the wheel or moves away from the drop center of the wheel against the resiliency of the coupling fixture in accordance with the velocity of the vehicle.
9. The transmitter mounting structure of claim 1, wherein the coupling fixture is a plate spring.

10. A method for mounting a transmitter of a tire condition monitoring apparatus arranged in a tire of a vehicle having a wheel, the wheel including a drop center and a rim formed integrally with the drop center at a predetermined angle relative to the drop center, the rim having a valve hole, the method comprising:
- 5 preparing a valve stem for charging air into a tire, the valve stem having a basal end;
- preparing a casing for housing the transmitter, the casing having a projection;
- preparing a coupling fixture for coupling the casing and the valve stem, the coupling fixture including a coupler coupled to the basal end of the valve stem and having a
- 10 coupling hole, an anchor for anchoring the casing, and a connection for connecting the coupler and the anchor at an angle to one another so that the coupling fixture is resilient, with the angle between the coupler and the anchor being greater than the predetermined angle before the coupling fixture couples the casing and the valve stem;
- attaching the casing to the anchor of the coupler;
- 15 inserting the basal end of the valve stem through a coupling hole of the coupling fixture to couple the basal end of the valve stem to the coupling fixture with a bushing; and
- attaching the valve stem to the valve hole in the rim when the projection of the casing is abutted against the drop center of the wheel by the resiliency of the coupling
- 20 fixture.

11. The method according to claim 10, further comprising:
- preparing the bracket with a pair of projecting rotation regulating walls  
extending from the bracket; and
- coupling the bracket to the casing and the coupling fixture, wherein the
- 5 bushing includes a pair of side walls and said attaching the valve stem to the valve  
hole includes arranging the bushing between the pair of rotation regulating walls such  
that the rotation regulating walls of the bracket and the side walls of the bushing abut  
against one another.
12. The method according to claim 11, wherein said attaching the valve stem to the valve  
hole includes attaching the valve stem to the wheel with a valve nut.
13. The method according to claim 10, wherein the coupling fixture is a plate spring.